

After this phenomenon had become familiar, others were observed, apparently of a more extraordinary, but in fact of a less important, character. The physiological effect of the instrument was one of the first to excite attention: and surely if the attention of philosophers was diverted in a great degree by this from the more important phenomena it was a natural and an excusable error, far most astonishing were some of the effects which it exhibited. It was found that the nerves of animals were apparatus of a highly electroscopic character—far more sensible than the finest and most delicate instrument known to science. It was found that, if the negative pole of the pile were placed under the tongue and the positive above it (as may easily be done by attaching to the extremities a flat piece of metal) a certain acid flavor was perceived. If, on the other hand, the positive pole was placed below and the negative above the tongue an alkaline taste was perceived—Again, if an animal, at any pole of the electric pile, was applied, at any point of the face, as to the cheek, nose, chin, or forehead, the part of the body known to anatomists to be so full of nerves, and the other pole held in the hand, so that a certain portion of the fluid should be compelled to pass through the nerves of the face, even though the eyes were shut a vivid flash of light would be perceived. This was an extraordinary physical fact; but the most extraordinary of all still remained behind. When the poles were applied to an inanimate body—an organized human body—from which the soul had passed away, it was found that, by a proper application of these extraordinary agents, to various localities in the nervous system, the dead body was made to imitate the functions of life with terrific and revolting precision. The arms were raised and thrown struck; the legs extended themselves, and kicked with violence; weights were raised

GRÖTHIUS maintained that the elementary particles of water were naturally charged with positive and negative electricity. Take a single molecule; it is composed of two parts of hydrogen and 1 oxygen; the two are held together by the mutual attraction of the two opposite electricities which the particle contains. Now, says GRÖTHIUS, things happen in this way: when the stream of positive electricity sent to the point of the wire, it at once meets the negative electricity of the particle nearest to it, to itself. And as the positive electricity of the oxygen has an attraction for the negative electricity of the wire the particle turns its oxygen side to the wire, and the hydrogen being repelled by the positive fluid is turned away from the wire. Therefore, said he, the molecule shifts its position until it gets its oxygen face to the wire, and its hydrogen face from it. Now, this particle having thus changed its position, the negative electricity of the hydrogen, which is turned from the wire, attracts the positive of the molecule next to it, which likewise shifts its position until its oxygen face is turned toward the first particle, and its hydrogen from it; and the same thing goes on through the water, so that you will have a row of particles from the point of one wire to the point of the other, all ranged along between the two; the oxygen faces of the particles being all turned toward the positive wire, and all the hydrogen faces towards the negative wire. Now, said Gröthius, what happened? you say it is extraordinary, for you see no bubble; not at all extraordinary, for the positive wire lays hold, by the stream of its attraction, of the oxygen of the nearest particle and discharges the hydrogen; but that hydrogen does not ascend, because it is seized by the oxygen of the adjacent particle of water: the discharged hydrogen again lays hold of the oxygen of its neighbor and thus it goes on, by a successive action

He remarked that the water in the middle vessel remained pure, although all the acid in the on-vessel, and the alkali in the other had passed through it. This was sufficiently remarkable; and he saw that something more remained to be examined. He considered that the water in the middle vessel must be in a peculiar physical state. Was the mass of the liquid through which the acid and alkali were in the act of passing free from either, or would it have the qualities of a solution of either of those principles? If it would not, it would

Having thus concluded his Seventh Lecture, Dr LARDNER exhibited his fine moving diorama of the heavens, at the same time remarking upon the different celestial appearances—as he had done on former evenings. He also made some observations upon the double stars, which are supposed to be twin suns for twin systems. These are often of complementary colors as red and green and some of the speculations of Sir JOHN HERSCHEL, the most poetic of astronomers, upon the vicissitudes of day and night upon the planets which are lighted by these Suns, are exceedingly curious, and not without some foundation. Thus, a planet, while

CUSTOM HO
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